SUBSTITUTE SEQUENCE LISTING

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<120> BTLA Nucleic Acids (amended)

<130> A-71608

<140> 10/600,997
<141> 2003-06-20

<150> US 60/390,653
<151> 2002-06-20

<150> US 60/438,593
<151> 2003-01-06

<160> 62

<170> PatentIn version 3.3

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Gly Lys His Phe Ile Thr Val Thr Thr Phe Thr Ser Ala Gly Asn Ile
35 40 45

Gly Glu Asp Gly Thr Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu
50 55 60

Asn Gly Ile Val Ile Gln Trp Leu Lys Glu Gly Ile Lys Gly Leu Val
65 70 75 80

His Glu Phe Lys Glu Gly Lys Asp Asp Leu Ser Gln Gln His Glu Met
85 90 95

Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Val Val Gly Asn
100 105 110

Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr
115 120 125

Thr Cys Tyr Ile Arg Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu

130 135 140

Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Ile Asn Val Asp Tyr Asn
145 150 155 160

Ala Ser Ser Glu Ser Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln
165 170 175

Pro Thr Val Ala Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser
180 185 190

Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met
195 200 205

Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser
210 215 220

Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val
225 230 235 240

Thr Asp Ser Glu Val Lys Arg Arg Ser Gln Leu Gln Leu Leu Asn Ser
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Gly Pro Ser Pro Cys Val Phe Ser Ser Ala Phe Ala Ala Gly Trp Ala
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Leu Leu Ser Leu Ser Cys Cys Leu Met Leu Arg
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<212> PRT
<213> Homo sapiens

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20 25 30

Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala Gly Asn Ile
35 40 45

Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu
50 55 60

Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val Leu Gly Leu Val
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Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Ile Val Gly Asn
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Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr
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Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu
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Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn Val Asp Tyr Asn
145                 150                 155                 160

Ala Ser Ser Glu Thr Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln
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Pro Thr Val Val Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser
            180                 185                 190

Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met
        195                 200                 205

Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser
    210                 215                 220

Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val
225                 230                 235                 240

Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln Leu Leu Asn Ser
                245                 250                 255

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Leu Pro Leu Ser Pro Tyr Leu Met Leu Lys
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acagcagtgt ttgctgatca agtgatagtt ggcaatgcct ctttgcggct gaaaaacgtg 360

caactcacag atgctggcac ctacaaatgt tatatcatca cttctaaagg caaggggaat 420

gctaaccttg agtataaaac tggagccttc agcatgccgg aagtgaatgt ggactataat 480

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ctgaactctg agaatgtgac catgaaggtt gtgtctgtgc tctacaatgt tacgatcaac 660

aacacatact cctgtatgat tgaaaatgac attgccaaag caacagggga tatcaaagtg 720

acagaatcgg agatcaaaag gcggagtcac ctacagctgc taaactcaaa ggcttctctg 780

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<212> PRT
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<400> 5

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Thr Lys Arg Asn Asp Glu Glu Cys Glu Val Gln Leu Asn Ile Lys Arg
        35                  40                  45

Asn Ser Lys His Ser Ala Trp Thr Gly Glu Leu Phe Lys Ile Glu Cys
    50                  55                  60

Pro Val Lys Tyr Cys Val His Arg Pro Asn Val Thr Trp Cys Lys His
65                  70                  75                  80

Asn Gly Thr Ile Trp Val Pro Leu Glu Val Gly Pro Gln Leu Tyr Thr
                85                  90                  95

Ser Trp Glu Glu Asn Arg Ser Val Pro Val Phe Val Leu His Phe Lys
            100                 105                 110

Pro Ile His Leu Ser Asp Asn Gly Ser Tyr Ser Cys Ser Thr Asn Phe
        115                 120                 125

Asn Ser Gln Val Ile Asn Ser His Ser Val Thr Ile His Val Arg Glu
    130                 135                 140

Arg Thr Gln Asn Ser Ser Glu His Pro Leu Ile Thr Val Ser Asp Ile
145                 150                 155                 160

Pro Asp Ala Thr Asn Ala Ser Gly Pro Ser Thr Met Glu Glu Arg Pro
                165                 170                 175

Gly Arg Thr Trp Leu Leu Tyr Thr Leu Leu Pro Leu Gly Ala Leu Leu
            180                 185                 190

Leu Leu Leu Ala Cys Val Cys Leu Leu Cys Phe Leu Lys Arg Ile Gln
        195                 200                 205

Gly Lys Glu Lys Lys Pro Ser Asp Leu Ala Gly Arg Asp Thr Asn Leu
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Val Asp Ile Pro Ala Ser Ser Arg Thr Asn His Gln Ala Leu Pro Ser
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225 230 235 240

Gly Thr Gly Ile Tyr Asp Asn Asp Pro Trp Ser Ser Met Gln Asp Glu
245 250 255

Ser Glu Leu Thr Ile Ser Leu Gln Ser Glu Arg Asn Asn Gln Gly Ile
260 265 270

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Arg Ser
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<210> 6
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Ser Cys Asp Val Gln Leu Tyr Ile Lys Arg Gln Ser Glu His Ser Ile
35 40 45

Leu Ala Gly Asp Pro Phe Glu Leu Glu Cys Pro Val Lys Tyr Cys Ala
50 55 60

Asn Arg Pro His Val Thr Trp Cys Lys Leu Asn Gly Thr Thr Cys Val
65 70 75 80

Lys Leu Glu Asp Arg Gln Thr Ser Trp Lys Glu Glu Lys Asn Ile Ser
85 90 95

Phe Phe Ile Leu His Phe Glu Pro Val Leu Pro Asn Asp Asn Gly Ser
100 105 110

Tyr Arg Cys Ser Ala Asn Phe Gln Ser Asn Leu Ile Glu Ser His Ser
115 120 125

Thr Thr Leu Tyr Val Thr Asp Val Lys Ser Ala Ser Glu Arg Pro Ser
130 135 140

Lys Asp Glu Met Ala Ser Arg Pro Trp Leu Leu Tyr Ser Leu Leu Pro
145 150 155 160

Leu Gly Gly Leu Pro Leu Leu Ile Thr Thr Cys Phe Cys Leu Phe Cys
165 170 175

Cys Leu Arg Arg His Gln Gly Lys Gln Asn Glu Leu Ser Asp Thr Ala
180 185 190

Gly Arg Glu Ile Asn Leu Val Asp Ala His Leu Lys Ser Glu Gln Thr
195 200 205

Glu Ala Ser Thr Arg Gln Asn Ser Gln Val Leu Leu Ser Glu Thr Gly
210 215 220

Ile Tyr Asp Asn Asp Pro Asp Leu Cys Phe Arg Met Gln Glu Gly Ser
225 230 235 240

Glu Val Tyr Ser Asn Pro Cys Leu Glu Glu Asn Lys Pro Gly Ile Val
245 250 255

Tyr Ala Ser Leu Asn His Ser Val Ile Gly Leu Asn Ser Arg Leu Ala
260 265 270

Arg Asn Val Lys Glu Ala Pro Thr Glu Tyr Ala Ser Ile Cys Val Arg
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aaatactgtg ctaacaggcc tcatgtgact tggtgcaagc tcaatggaac aacatgtgta 240

aaacttgaag atagacaaac aagttggaag gaagagaaga acatttcatt tttcattcta 300

cattttgaac caatgcttcc taatgacaat gggtcatacc gctgttctgc aaattttcag 360

tctaatctca ttgaaagcca ctcaacaact ctttatgtga cagatgtaaa aggtgcctca 420

gaacgaccct ccaaggacga agtggcaagc agaccctggc tcctgtatag tttacttcct 480

ttgggggat tgcctctact catcactacc tggttctgcc tgttctgctg cctgagaagg 540

caccaaggaa agcaaaatga actctctgac acagcaggaa gggaaattaa tctggttgat 600

gctcacctta agagcgagca aacagaagca agcaccaggc aaaattccca agtactgcta 660

tcagaagctg gaatttatga taatgaccct gacctttgtt tcaggatgca ggaagggtct 720

gaagtttgtt ctaatccatg cctggaagaa aacaaaccag gcattgttta tgcttccctg 780

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gaatatgcat ccatatgtgt gaggagttaa 870

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Ser Cys Asp Val Gln Leu Tyr Ile Lys Arg Gln Ser Glu His Ser Ile
35 40 45

Leu Ala Gly Asp Pro Phe Glu Leu Glu Cys Pro Val Lys Tyr Cys Ala
50 55 60

Asn Arg Pro His Val Thr Trp Cys Lys Leu Asn Gly Thr Thr Cys Val
65 70 75 80

Lys Leu Glu Asp Arg Gln Thr Ser Trp Lys Glu Glu Lys Asn Ile Ser
85 90 95

Phe Phe Ile Leu His Phe Glu Pro Met Leu Pro Asn Asp Asn Gly Ser
100 105 110

Tyr Arg Cys Ser Ala Asn Phe Gln Ser Asn Leu Ile Glu Ser His Ser
115 120 125

Thr Thr Leu Tyr Val Thr Asp Val Lys Gly Ala Ser Glu Arg Pro Ser
130 135 140

Lys Asp Glu Val Ala Ser Arg Pro Trp Leu Leu Tyr Ser Leu Leu Pro
145 150 155 160

Leu Gly Gly Leu Pro Leu Leu Ile Thr Thr Trp Phe Cys Leu Phe Cys
165 170 175

Cys Leu Arg Arg His Gln Gly Lys Gln Asn Glu Leu Ser Asp Thr Ala
180 185 190

Gly Arg Glu Ile Asn Leu Val Asp Ala His Leu Lys Ser Glu Gln Thr
195 200 205

Glu Ala Ser Thr Arg Gln Asn Ser Gln Val Leu Leu Ser Glu Ala Gly
210 215 220

Ile Tyr Asp Asn Asp Pro Asp Leu Cys Phe Arg Met Gln Glu Gly Ser
225 230 235 240

Glu Val Cys Ser Asn Pro Cys Leu Glu Glu Asn Lys Pro Gly Ile Val
245 250 255

Tyr Ala Ser Leu Asn His Ser Val Ile Gly Leu Asn Ser Arg Leu Ala
260 265 270

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Ser

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<212> DNA
<213> Mus musculus

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gaagtgcaac ttaatattaa gaggaattcc aaacactctg cctggacagg agagttattt 180

aaaattgaat gtcctgtgaa atactgtgtt catagaccta atgtgacttg gtgtaagcac 240

aatggaacaa tctgggtacc ccttgaagtt ggtcctcagc tatacactag ttgggaagaa 300

aatcgatcag ttccggtttt tgttctccat tttaaaccaa tacatctcag tgataacggg 360

tcgtatagct gttctacaaa cttcaattct caagttatta atagccattc agtaaccatc 420

catgtgagag aaaggactca aaactcttca gaacacccac taataacagt atctgacatc 480

ccagatgcca ccaatgcctc aggaccatcc accatggaag agaggccagg caggacttgg 540

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gacactaacc tggttgatat tccagccagt tccaggacaa atcaccaagc actgccatca 720

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<211> 306
<212> PRT
<213> Mus musculus

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Thr Lys Arg Asn Asp Glu Glu Cys Glu Val Gln Leu Asn Ile Lys Arg
35 40 45

Asn Ser Lys His Ser Ala Trp Thr Gly Glu Leu Phe Lys Ile Glu Cys
50 55 60

Pro Val Lys Tyr Cys Val His Arg Pro Asn Val Thr Trp Cys Lys His
65 70 75 80

Asn Gly Thr Ile Trp Val Pro Leu Glu Val Gly Pro Gln Leu Tyr Thr
85 90 95

Ser Trp Glu Glu Asn Arg Ser Val Pro Val Phe Val Leu His Phe Lys
100 105 110

Pro Ile His Leu Ser Asp Asn Gly Ser Tyr Ser Cys Ser Thr Asn Phe
115 120 125

Asn Ser Gln Val Ile Asn Ser His Ser Val Thr Ile His Val Arg Glu
130 135 140

Arg Thr Gln Asn Ser Ser Glu His Pro Leu Ile Thr Val Ser Asp Ile
145 150 155 160

Pro Asp Ala Thr Asn Ala Ser Gly Pro Ser Thr Met Glu Glu Arg Pro
165 170 175

Gly Arg Thr Trp Leu Leu Tyr Thr Leu Leu Pro Leu Gly Ala Leu Leu
180 185 190

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Leu Leu Leu Ala Cys Val Cys Leu Leu Cys Phe Leu Lys Arg Ile Gln
        195                 200                 205

Gly Lys Glu Lys Lys Pro Ser Asp Leu Ala Gly Arg Asp Thr Asn Leu
    210                 215                 220

Val Asp Ile Pro Ala Ser Ser Arg Thr Asn His Gln Ala Leu Pro Ser
225                 230                 235                 240

Gly Thr Gly Ile Tyr Asp Asn Asp Pro Trp Ser Ser Met Gln Asp Glu
                245                 250                 255

Ser Glu Leu Thr Ile Ser Leu Gln Ser Glu Arg Asn Asn Gln Gly Ile
            260                 265                 270

Val Tyr Ala Ser Leu Asn His Cys Val Ile Gly Arg Asn Pro Arg Gln
        275                 280                 285

Glu Asn Asn Met Gln Glu Ala Pro Thr Glu Tyr Ala Ser Ile Cys Val
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Arg Ser
305
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agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

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tcagtaacca tccatgtgag ag 322

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tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

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tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

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agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

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tcagtaacca tccatgtgag ag 322

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<211> 322
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agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

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agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

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tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

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<212> DNA
<213> Mus musculus

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tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

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agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

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tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

<210> 22
<211> 322
<212> DNA
<213> Mus musculus

<400> 22
gatgaagagt gtgaagtgca acttaatatt aagaggaatt ccaaacactc tgcctggaca 60

ggagagttat ttaaaattga atgtcctgtg aaatactgtg ttcatagacc taatgtgact 120

tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

<210> 23
<211> 322
<212> DNA
<213> Mus musculus

<400> 23
gatgaagagt gtgaagtgca acttaatatt aagaggaatt ccaaacactc tgcctggaca 60

ggagagttat ttaaaattga atgtcctgtg aaatactgtg ttcatagacc taatgtgact 120

tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

<210> 24
<211> 322
<212> DNA
<213> Mus musculus

<400> 24
gatgaagagt gtgaagtgca acttaatatt aagaggaatt ccaaacactc tgcctggaca 60

ggagagttat ttaaaattga atgtcctgtg gaatactgtg ttcatagacc tcatgtgact 120

tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

<210> 25
<211> 322
<212> DNA
<213> Mus musculus

<400> 25
gatgaagagt gtccagtgca acttactatt acgaggaatt ccaaacagtc tgccaggaca 60

ggagagttat ttaaaattca atgtcctgtg aaatactgtg ttcatagacc taatgtgact 120

tggtgtaagc acaatggaac aatctgtgta ccccttgagg ttagccctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataatg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgac ag 322

<210> 26
<211> 322
<212> DNA

<213> Mus musculus

<400> 26
gatgaagagt gtgaagtgca acttaatatt aagaggaatt ccaaacactc tgcctggaca 60

ggagagttat ttaaaattga atgtcctgtg gaatactgtg ttcatagacc tcatgtgact 120

tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

<210> 27
<211> 322
<212> DNA
<213> Mus musculus

<400> 27
gatgaagagt gtgaagtgca acttaatatt aagaggaatt ccaaacactc tgcctggaca 60

ggagagttat ttaaaattga atgtcctgtg aaatactgtg ttcatagacc taatgtgact 120

tggtgtaagc acaatggaac aatctgggta ccccttgaag ttggtcctca gctatacact 180

agttgggaag aaaatcgatc agttccggtt tttgttctcc attttaaacc aatacatctc 240

agtgataacg ggtcgtatag ctgttctaca aacttcaatt ctcaagttat taatagccat 300

tcagtaacca tccatgtgag ag 322

<210> 28
<211> 26
<212> DNA
<213> Homo sapiens

<400> 28
agctctgaag atctctaggg aggaag 26

<210> 29
<211> 32
<212> DNA
<213> Homo sapiens

<400> 29
catgctcgag gaaggtccag acagaggtat tg 32

<210> 30
<211> 29
<212> DNA
<213> Homo sapiens

<400> 30
gttcagatcc aaggatgctc cagaggccc 29

<210> 31
<211> 32

<212> DNA
<213> Homo sapiens

<400> 31
gagcatcctt ggatctgaac aaaagctgat ta 32

<210> 32
<211> 29
<212> DNA
<213> Homo sapiens

<400> 32
ctttctcaca gagctcgtac aggtcctct 29

<210> 33
<211> 31
<212> DNA
<213> Homo sapiens

<400> 33
gtacgagctc tgtgagaaag ctactaagag g 31

<210> 34
<211> 30
<212> DNA
<213> Homo sapiens

<400> 34
tgatattcca taaacctgcc actgagccag 30

<210> 35
<211> 33
<212> DNA
<213> Homo sapiens

<400> 35
tggcaggttt atggaatatc aaccaggtta gtg 33

<210> 36
<211> 31
<212> DNA
<213> Homo sapiens

<400> 36
gcttttgttc acttctcaca caaatggatg c 31

<210> 37
<211> 30
<212> DNA
<213> Homo sapiens

<400> 37
tgaggagtga acaaaagctg attagcgaag 30

<210> 38
<211> 27
<212> DNA

<213> Homo sapiens

<400> 38
ccgctcgagc tcctacaggt cctcttc 27

<210> 39
<211> 30
<212> DNA
<213> Homo sapiens

<400> 39
gaagatctgc aggaaatgaa gacattgcct 30

<210> 40
<211> 35
<212> DNA
<213> Homo sapiens

<400> 40
tcagcttttg ttccccatgg atgttccaga tgtcc 35

<210> 41
<211> 34
<212> DNA
<213> Homo sapiens

<400> 41
catccatggg gaacaaaagc tgattagcga agag 34

<210> 42
<211> 35
<212> DNA
<213> Homo sapiens

<400> 42
cacatgattc tttcaggtcc tcttcgctaa tcagc 35

<210> 43
<211> 35
<212> DNA
<213> Homo sapiens

<400> 43
gaggacctga aagaatcatg tgatgtacag cttta 35

<210> 44
<211> 32
<212> DNA
<213> Homo sapiens

<400> 44
ccgctcgagt tggagtcaga aacagactta ac 32

<210> 45
<211> 30
<212> DNA
<213> Homo sapiens

<400> 45
tgaggagtga acaaaagctg attagcgaag 30

<210> 46
<211> 30
<212> DNA
<213> Homo sapiens

<400> 46
tgaggagtga acaaaagctg attagcgaag 30

<210> 47
<211> 35
<212> DNA
<213> Homo sapiens

<400> 47
gaaactggaa tttatgataa tgaccctgac ctttg 35

<210> 48
<211> 35
<212> DNA
<213> Homo sapiens

<400> 48
gggtcattat caaaaattcc agtttctgat agcag 35

<210> 49
<211> 35
<212> DNA
<213> Homo sapiens

<400> 49
accaggcatt gtttatgctt ccctgaacca ttctg 35

<210> 50
<211> 28
<212> DNA
<213> Homo sapiens

<400> 50
agggaagcaa aaacaatgcc tggtttgt 28

<210> 51
<211> 33
<212> DNA
<213> Homo sapiens

<400> 51
gcaccaacag aatatgcatc catatgtgtg agg 33

<210> 52
<211> 33
<212> DNA
<213> Homo sapiens

<400> 52
atatggatgc aaattctgtt ggtgcttctt tta 33

<210> 53
<211> 20
<212> DNA
<213> Homo sapiens

<400> 53
tttggcctaa gatgctgcta 20

<210> 54
<211> 20
<212> DNA
<213> Homo sapiens

<400> 54
cacagattgg gtacgacatg 20

<210> 55
<211> 24
<212> DNA
<213> Homo sapiens

<400> 55
ttttccatca ctgatatgtg cagg 24

<210> 56
<211> 22
<212> DNA
<213> Homo sapiens

<400> 56
ggtccctgtt ggagtcagaa ac 22

<210> 57
<211> 306
<212> PRT
<213> Mus musculus

<400> 57

Met Ala Cys Asn Cys Gln Leu Met Gln Asp Thr Pro Leu Leu Lys Phe
1 5 10 15

Pro Cys Pro Arg Leu Ile Leu Leu Phe Val Leu Leu Ile Arg Leu Ser
20 25 30

Gln Val Ser Ser Asp Val Asp Glu Gln Leu Ser Lys Ser Val Lys Asp
35 40 45

Lys Val Leu Leu Pro Cys Arg Tyr Asn Ser Pro His Glu Asp Glu Ser
50 55 60

Glu Asp Arg Ile Tyr Trp Gln Lys His Asp Lys Val Val Leu Ser Val

65 70 75 80

Ile Ala Gly Lys Leu Lys Val Trp Pro Glu Tyr Lys Asn Arg Thr Leu
85 90 95

Tyr Asp Asn Thr Thr Tyr Ser Leu Ile Ile Leu Gly Leu Val Leu Ser
100 105 110

Asp Arg Gly Thr Tyr Ser Cys Val Val Gln Lys Lys Glu Arg Gly Thr
115 120 125

Tyr Glu Val Lys His Leu Ala Leu Val Lys Leu Ser Ile Lys Ala Asp
130 135 140

Phe Ser Thr Pro Asn Ile Thr Glu Ser Gly Asn Pro Ser Ala Asp Thr
145 150 155 160

Lys Arg Ile Thr Cys Phe Ala Ser Gly Gly Phe Pro Lys Pro Arg Phe
165 170 175

Ser Trp Leu Glu Asn Gly Arg Glu Leu Pro Gly Ile Asn Thr Thr Ile
180 185 190

Ser Gln Asp Pro Glu Ser Glu Leu Tyr Thr Ile Ser Ser Gln Leu Asp
195 200 205

Phe Asn Thr Thr Arg Asn His Thr Ile Lys Cys Leu Ile Lys Tyr Gly
210 215 220

Asp Ala His Val Ser Glu Asp Phe Thr Trp Glu Lys Pro Pro Glu Asp
225 230 235 240

Pro Pro Asp Ser Lys Asn Thr Leu Val Leu Phe Gly Ala Gly Phe Gly
245 250 255

Ala Val Ile Thr Val Val Val Ile Val Val Ile Ile Lys Cys Phe Cys
260 265 270

Lys His Arg Ser Cys Phe Arg Arg Asn Glu Ala Ser Arg Glu Thr Asn
275 280 285

Asn Ser Leu Thr Phe Gly Pro Glu Glu Ala Leu Ala Glu Gln Thr Val
290 295 300

Phe Leu
305

<210> 58

<211> 309
<212> PRT
<213> Mus musculus

<400> 58

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Met Asp Pro Arg Cys Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr
1               5                  10                  15

Val Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gln Ala Tyr Phe
            20                  25                  30

Asn Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile
        35                  40                  45

Ser Leu Ser Glu Leu Val Val Phe Trp Gln Asp Gln Gln Lys Leu Val
    50                  55                  60

Leu Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu Asp Ser Val Asn Ala
65                  70                  75                  80

Lys Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg
                85                  90                  95

Leu His Asn Val Gln Ile Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile
            100                 105                 110

Gln Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr
        115                 120                 125

Glu Leu Ser Val Ile Ala Asn Phe Ser Glu Pro Glu Ile Lys Leu Asp
    130                 135                 140

Gln Asn Val Thr Gly Asn Ser Gly Ile Asn Leu Thr Cys Met Ser Lys
145                 150                 155                 160

Gln Gly His Pro Lys Pro Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser
                165                 170                 175

Thr Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr
            180                 185                 190

Glu Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly
        195                 200                 205

Val Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys
    210                 215                 220

Ile Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Pro Ser Ala Gln
225                 230                 235                 240
```

```
Thr Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Leu
                245                 250                 255

Val Met Leu Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser
            260                 265                 270

Arg Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp
        275                 280                 285

Arg Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala
    290                 295                 300

Lys Pro Asn Ala Glu
305
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<210> 59
<211> 323
<212> PRT
<213> Mus musculus

<400> 59

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Met Gln Leu Lys Cys Pro Cys Phe Val Ser Leu Gly Thr Arg Gln Pro
1               5                   10                  15

Val Trp Lys Lys Leu His Val Ser Ser Gly Phe Phe Ser Gly Leu Gly
            20                  25                  30

Leu Phe Leu Leu Leu Leu Ser Ser Leu Cys Ala Ala Ser Ala Glu Thr
        35                  40                  45

Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
    50                  55                  60

Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
65                  70                  75                  80

Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
                85                  90                  95

Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
            100                 105                 110

Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val
        115                 120                 125

Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met Asn Thr
    130                 135                 140
```

```
Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
145                 150                 155                 160

Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
                165                 170                 175

Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
            180                 185                 190

Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
        195                 200                 205

Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
    210                 215                 220

Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser Arg Gly Asp Val
225                 230                 235                 240

Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
                245                 250                 255

Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
            260                 265                 270

Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu
        275                 280                 285

Ala Ala Ala Ala Phe Val Ser Phe Ile Ile Tyr Arg Arg Thr Arg Pro
    290                 295                 300

His Arg Ser Tyr Thr Gly Pro Lys Thr Val Gln Leu Glu Leu Thr Asp
305                 310                 315                 320

His Ala Asn
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<210> 60
<211> 290
<212> PRT
<213> Mus musculus

<400> 60

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Met Arg Ile Phe Ala Gly Ile Ile Phe Thr Ala Cys Cys His Leu Leu
1               5                   10                  15

Arg Ala Phe Thr Ile Thr Ala Pro Lys Asp Leu Tyr Val Val Glu Tyr
            20                  25                  30
```

```
Gly Ser Asn Val Thr Met Glu Cys Arg Phe Pro Val Glu Arg Glu Leu
        35                  40                  45

Asp Leu Leu Ala Leu Val Val Tyr Trp Glu Lys Glu Asp Glu Gln Val
    50                  55                  60

Ile Gln Phe Val Ala Gly Glu Glu Asp Leu Lys Pro Gln His Ser Asn
65                  70                  75                  80

Phe Arg Gly Arg Ala Ser Leu Pro Lys Asp Gln Leu Leu Lys Gly Asn
                85                  90                  95

Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr
            100                 105                 110

Cys Cys Ile Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Leu
        115                 120                 125

Lys Val Asn Ala Pro Tyr Arg Lys Ile Asn Gln Arg Ile Ser Val Asp
    130                 135                 140

Pro Ala Thr Ser Glu His Glu Leu Ile Cys Gln Ala Glu Gly Tyr Pro
145                 150                 155                 160

Glu Ala Glu Val Ile Trp Thr Asn Ser Asp His Gln Pro Val Ser Gly
                165                 170                 175

Lys Arg Ser Val Thr Thr Ser Arg Thr Glu Gly Met Leu Leu Asn Val
            180                 185                 190

Thr Ser Ser Leu Arg Val Asn Ala Thr Ala Asn Asp Val Phe Tyr Cys
        195                 200                 205

Thr Phe Trp Arg Ser Gln Pro Gly Gln Asn His Thr Ala Glu Leu Ile
    210                 215                 220

Ile Pro Glu Leu Pro Ala Thr His Pro Pro Gln Asn Arg Thr His Trp
225                 230                 235                 240

Val Leu Leu Gly Ser Ile Leu Leu Phe Leu Ile Val Val Ser Thr Val
                245                 250                 255

Leu Leu Phe Leu Arg Lys Gln Val Arg Met Leu Asp Val Glu Lys Cys
            260                 265                 270

Gly Val Glu Asp Thr Ser Ser Lys Asn Arg Asn Asp Thr Gln Phe Glu
        275                 280                 285
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Glu Thr
290

<210> 61
<211> 247
<212> PRT
<213> Mus musculus

<400> 61

Met Leu Leu Leu Leu Pro Ile Leu Asn Leu Ser Leu Gln Leu His Pro
1 5 10 15

Val Ala Ala Leu Phe Thr Val Thr Ala Pro Lys Glu Val Tyr Thr Val
20 25 30

Asp Val Gly Ser Ser Val Ser Leu Glu Cys Asp Phe Asp Arg Arg Glu
35 40 45

Cys Thr Glu Leu Glu Gly Ile Arg Ala Ser Leu Gln Lys Val Glu Asn
50 55 60

Asp Thr Ser Leu Gln Ser Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu
65 70 75 80

Pro Leu Gly Lys Ala Leu Phe His Ile Pro Ser Val Gln Val Arg Asp
85 90 95

Ser Gly Gln Tyr Arg Cys Leu Val Ile Cys Gly Ala Ala Trp Asp Tyr
100 105 110

Lys Tyr Leu Thr Val Lys Val Lys Ala Ser Tyr Met Arg Ile Asp Thr
115 120 125

Arg Ile Leu Glu Val Pro Gly Thr Gly Glu Val Gln Leu Thr Cys Gln
130 135 140

Ala Arg Gly Tyr Pro Leu Ala Glu Val Ser Trp Gln Asn Val Ser Val
145 150 155 160

Pro Ala Asn Thr Ser His Ile Arg Thr Pro Glu Gly Leu Tyr Gln Val
165 170 175

Thr Ser Val Leu Arg Leu Lys Pro Gln Pro Ser Arg Asn Phe Ser Cys
180 185 190

Met Phe Trp Asn Ala His Met Lys Glu Leu Thr Ser Ala Ile Ile Asp
195 200 205

Pro Leu Ser Arg Met Glu Pro Lys Val Pro Arg Thr Trp Pro Leu His

210 215 220

Val Phe Ile Pro Ala Cys Thr Ile Ala Leu Ile Phe Leu Ala Ile Val
225 230 235 240

Ile Ile Gln Arg Lys Arg Ile
245

<210> 62
<211> 316
<212> PRT
<213> Mus musculus

<400> 62

Met Leu Arg Gly Trp Gly Gly Pro Ser Val Gly Val Cys Val Arg Thr
1 5 10 15

Ala Leu Gly Val Leu Cys Leu Cys Leu Thr Gly Ala Val Glu Val Gln
20 25 30

Val Ser Glu Asp Pro Val Val Ala Leu Val Asp Thr Asp Ala Thr Leu
35 40 45

Arg Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn
50 55 60

Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe Thr
65 70 75 80

Glu Gly Arg Asp Gln Gly Ser Ala Tyr Ser Asn Arg Thr Ala Leu Phe
85 90 95

Pro Asp Leu Leu Val Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg Val
100 105 110

Arg Val Thr Asp Glu Gly Ser Tyr Thr Cys Phe Val Ser Ile Gln Asp
115 120 125

Phe Asp Ser Ala Ala Val Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys
130 135 140

Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asn Met
145 150 155 160

Val Thr Ile Thr Cys Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val
165 170 175

Phe Trp Lys Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr
180 185 190

Ser Gln Met Ala Asn Glu Arg Gly Leu Phe Asp Val His Ser Val Leu
195 200 205

Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn
210 215 220

Pro Val Leu Gln Gln Asp Ala His Gly Ser Val Thr Ile Thr Gly Gln
225 230 235 240

Pro Leu Thr Phe Pro Pro Glu Ala Leu Trp Val Thr Val Gly Leu Ser
245 250 255

Val Cys Leu Val Val Leu Leu Val Ala Leu Ala Phe Val Cys Trp Arg
260 265 270

Lys Ile Lys Gln Ser Cys Glu Glu Glu Asn Ala Gly Ala Glu Asp Gln
275 280 285

Asp Gly Asp Gly Glu Gly Ser Lys Thr Ala Leu Arg Pro Leu Lys Pro
290 295 300

Ser Glu Asn Lys Glu Asp Asp Gly Gln Glu Ile Ala
305 310 315